

What is claimed is:

1. A telecommunication signal frame comprising a section overhead (SOH) with a Regeneration Section OverHead (RSOH) comprising in turn a first byte (K1) and a second byte (K2), said first byte (K1) comprising bits (a_{K15} , a_{K16} , a_{K17} , a_{K18}) identifying the destination node and said second byte (K2) comprising bits (a_{K21} , a_{K22} , a_{K23} , a_{K24}) identifying the source node, wherein said Multiplex Section OverHead (MSOH) comprises a third byte (K0) comprising at least one Source Node Identification Extension bit (a_{K05} , a_{K06} ; a_{K03} , a_{K04} , a_{K05}), at least one Destination Node Identification Extension bit (a_{K07} , a_{K08} ; a_{K06} , a_{K07} , a_{K08}) and at least one bit (a_{K01} , a_{K02} , a_{K03} , a_{K04} ; a_{K01} , a_{K02}) indicating a change of the information in said first and/or second and/or third bytes (K1, K2, K0).

2. A frame according to claim 1, wherein said Source Node Identification Extension bits (a_{K05} , a_{K06}) and said Destination Node Identification Extension bits (a_{K07} , a_{K08}) are two in number and said bits (a_{K01} , a_{K02} , a_{K03} , a_{K04}) indicating an information change are four in number.

3. A frame according to claim 1, wherein both said Source Node Identification Extension bits (a_{K03} , a_{K04} , a_{K05}) and said Destination Node Identification Extension bits (a_{K06} , a_{K07} , a_{K08}) are three in number and said bits (a_{K01} , a_{K02}), indicating an information change are two in number.

4. A frame according to claim 2, wherein said Source Node Identification Extension bits (a_{K05} , a_{K06}) are the fifth and sixth bits of the third byte (K0), said Destination Node Identification Extension bits (a_{K07} , a_{K08}) are the subsequent two ones and said bits (a_{K01} , a_{K02} , a_{K03} , a_{K04}) indicating an information change are the first four ones.

5. A frame according to claim 3, wherein said Source Node Identification Extension bits (a_{K03} , a_{K04} , a_{K05}) are the third, fourth and fifth bits of the third byte (K0), said Destination Node Identification Extension bits (a_{K06} , a_{K07} , a_{K08}) are the subsequent three ones and said bits (a_{K01} , a_{K02}) indicating an information variation are the first two ones.

6. A frame according to claim 1, wherein the third byte (K0) is located at the 9th row, 9th column of the first STM-1 of the frame.

7. A method for optimizing the time management of the information carried by a first byte (K1) and a second byte (K2) of the Multiplex Section OverHead (MSOH) of the Section Overhead (SOH) of a telecommunication signal

frame and for increasing the number of nodes in a telecommunications optical ring, wherein it includes the step of arranging the bits (a_{K01} to a_{K08}) of a third byte ($K0$) of the Multiplex Section OverHead (MDOH) in such a way that at least one of them ($a_{K05}, a_{K06}, a_{K03}, a_{K04}, a_{K05}$) represents an Extension of the Source Node IDentification and at least one of them ($a_{K07}, a_{K08}; a_{K06}, a_{K07}, a_{K08}$), represents an Extension of the Destination node IDentification and at least one of the remaining ones ($a_{K01}, a_{K02}; a_{K03}, a_{K04}; a_{K01}, a_{K02}$) indicates an information change in said first and/or second and/or third bytes ($K1, K2, K0$).

8. A method according to claim 7, wherein both said Source Node IDentification Extension bits (a_{K05}, a_{K06}) and said Destination Node IDentification Extension bits (a_{K07}, a_{K08}) are two in number and said bits ($a_{K01}, a_{K02}, a_{K03}, a_{K04}$) indicating an information change are four in number.

9. A method according to claim 7, wherein both said Source Node IDentification Extension bits ($a_{K03}, a_{K04}, a_{K05}$) and said Destination Node IDentification Extension bits ($a_{K06}, a_{K07}, a_{K08}$) are three in number and said bits (a_{K01}, a_{K02}) indicating an information change are two in number.

10. A method according to claim 7, wherein, in transmitting the frame, the first and the second bytes ($K1, K2$) are sent first and finally the third byte ($K0$) is sent.

11. A method according to claim 7, wherein, in receiving the frame, the first and second bytes ($K1, K2$) are read if at lest one, but preferably all bits ($a_{K01}, a_{K02}, a_{K03}, a_{K04}; a_{K01}, a_{K02}$) indicating an information change of the third byte ($K0$) are changed and as a result an interrupt is generated.

12. A method according to claim 11, wherein the Destination Node IDentification is calculated with the following algorithm:

$$IDDN_{K1+K0} = IDDN_{K1} + 16 * IDDNE_{K0}$$

where: $IDDN_{K1+K0}$ = binary number "extended" IDentification of the Destination Node (calculated by using the bits of $K1$ and $K0$); $IDDN_{K1}$ = binary number IDentification of the Destination Node (bits $a_{K15}, a_{K16}, a_{K17}, a_{K18}$); $IDDNE_{K0}$ = binary number Extension of the Destination Node IDentification (bits $a_{K07}, a_{K08}; a_{K06}, a_{K07}, a_{K08}$).

13. A method according to claim 11, wherein the Source Node IDentification is calculated with the following algorithm:

$$IDSN_{K2+K0} = IDSN_{K2} + 16 * IDSNE_{K0}$$

Where: $IDSN_{K2+K0}$ = binary number Extended IDentification of the Source Node (calculated by using the bits of K2 and K0) $IDSN_{K2}$ = binary number IDentification of the Source Node (bits a_{K21} , a_{K22} , a_{K23} , a_{K24}); $IDSNE_{K0}$ = binary number Extension of the Source Node IDentification (bits a_{K05} , a_{K06} ; a_{K03} - a_{K05}).

14. A computer program comprising computer program code means adapted to perform the algorithm indicated in claim 12 or 13, when said program is run in a computer.

15. A computer readable means having a computer program recorded thereon, said computer readable medium comprising computer program code means adapted to perform the algorithm indicated in claim 12 ~~or 13~~, when said program is run in a computer.

16. The use of a third byte (K0) of a telecommunication signal frame to manage in an optimized manner the information contained in a first (K1) and a second (K2) bytes of the same frame, wherein said third byte (K0) comprises at least one Source Node IDentification Extension bit (a_{K05} , a_{K06} ; a_{K03} , a_{K04} , a_{K05}), at least one Destination Node IDentification Extension bit (a_{K07} , a_{K08} ; a_{K06} , a_{K07} , a_{K08}) and at least one bit (a_{K01} , a_{K02} , a_{K03} , a_{K04} ; a_{K01} , a_{K02}) indicating a change of information in said first and/or second and/or third byte (K1, K2, K0).